

SUPPORT FOR THE AMENDMENT

Claims 1-13 are currently amended.

The claims have been amended to remove multiple dependencies, to clarify claim language, and for minor editorial purposes, in accordance with the Examiner's suggestions.

The amendments to the claims are supported by the claims and throughout the present specification and Examples, as originally filed.

No new matter has been added by the amendments.

Upon entry of the amendments, claims 1-13 will be pending in the present application.

REQUEST FOR RECONSIDERATION

Applicants wish to thank Examiner Lezah Roberts and Primary Examiner Krass for the courteous interview with Applicants' Representative, and for the follow-up discussion with the Examiner. At that time, Applicants' Representative discussed the compositional differences between the dental bleaching agent set of the claimed invention and the teeth whitening compositions of the cited primary references, and why these differences would not have been obvious by the disclosures of the references. The non-analogous disclosures of secondary references was also discussed. Moreover, the rejections of the claims for indefiniteness and the objections to the claims were also discussed, as well as the above-amendments for overcoming the rejections. The following remarks further expand upon the discussion with the Examiner.

Rejections Under 35 U.S.C. § 102

The rejections of claims 1 and 2 under 35 U.S.C. § 102(e) as anticipated by Nathoo (US 2003/0109313) and of claims 1 and 2 under 35 U.S.C. § 102(b) as anticipated by Christina-Beck et al. (US 5,766,574) are obviated by amendment.

As shown above, claim 1 has been amended to recite a dental bleaching agent set comprising a first component for applying to a tooth surface comprising an organic solvent containing at least one of a nitrogen doped titanium oxide powder and a titanium oxinitride powder which is photocatalytic in the visible spectral region.

By contrast, Nathoo only describes titanium dioxide in a second component of its two-component tooth whitening composition. (See paragraph [0025]). Christina-Beck et al. only describes titanium dioxide as an ingredient in its dual component tooth whitening composition. Neither reference describes or suggests the use of a nitrogen doped titanium oxide powder or a titanium oxinitride powder, as presently claimed, as first component in a

two-component dental bleaching agent set. Therefore, the claimed invention is novel and non-obvious in view of the references.

Accordingly, withdrawal of the rejection is requested.

Rejections Under 35 U.S.C. § 103

The rejections under 35 U.S.C. § 103(a) of claims 1-4 and 12-13 as obvious over Montgomery et al. (US 2003/0198605) in view of Morikawa et al. (US 2002/0006865); claims 1-2 and 12 as obvious over Montgomery et al. (US 6,162,055) in view of Fujishima (US 6,387,844); and claims 1-4 and 12-13 as obvious over Montgomery et al. in view of Fujishima and further in view of Morikawa et al. are respectfully traversed and obviated by amendment.

Montgomery et al. (US '605) and Montgomery et al. (US '055), do not describe or suggest, *inter alia*, a nitrogen doped titanium oxide powder or titanium oxinitride powder in the teeth whitening compositions disclosed therein. Moreover, Fujishima does not require a nitrogen doped titanium oxide powder or a titanium oxinitride powder in the titanium dioxide films disclosed therein, as acknowledged by the Examiner. (See, e.g., present Office Action at page 13, lines 3-6). Further, it is noted that the disclosure in Fujishima does not relate to any dental bleaching or methods thereof whatsoever. (See, e.g., column 1, lines 15-18, indicating that the reference relates to a lighting device and a window glass).

Morikawa et al. (US 2002/0006865) does not cure the deficiencies of these references.

In particular, the reference merely recites "a photocatalytic substance which can exert a stable photocatalytic function when irradiated by light in a visible range." (See paragraph [0008]). "The photocatalytic substance may include one or more of V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ru, Rh, Pd, Re, Os, Ir, Pt, Mo and Nb, substituting at one or more titanium sites in Ti-O-X, doping between Ti-O-X crystal lattices, doping to crystalline grain boundary of Ti-O-X, or a combination of these methods." (See paragraph [0011]). However, there is no

explicit or implicit indication that one would look to this reference for guidance in anything relating to teeth, since the reference does not disclose or suggest that the photocatalytic substance is useful for dental bleaching or any related field of endeavor. Therefore, the reference is non-analogous art.

As such, as the Examiner has not provided any evidence of a suggestion or motivation for the combination or modification of the above-cited references, based on the disclosure of Morikawa et al., the claimed invention is novel and non-obvious.

Accordingly, withdrawal of the rejections is requested.

Rejections under 35 U.S.C. § 112, Second Paragraph

The rejections of claims 1-14 under 35 U.S.C. § 112, second paragraph are traversed and obviated by amendment, as shown above. The claims have been amended to recite that the amount of the components is “based on the total weight of the composition.” Moreover, the phrase “having photocatalytic activities” has been amended to recite “is photocatalytic in the visible spectral region.”

Regarding the use of the term “set”, Applicants note that the intending meaning of the term is discussed throughout the present specification, which is merely a proper indicator that the claimed bleaching agent has more than one component, i.e., the “dental bleaching agent set is characterized by having two components.” (See, e.g., the present specification at page 5, lines 16-17). Thus, there is no ambiguity in the meaning of the term and its usage in the present claims.

Accordingly, withdrawal of the rejections is requested.

Claim Objections

The objections to claims 5-11 are obviated by amendment, as shown above. The claims have been amended to remove the improper multiple dependencies.

Accordingly, withdrawal of the objection is requested.

Obviousness-Type Double Patenting Rejection

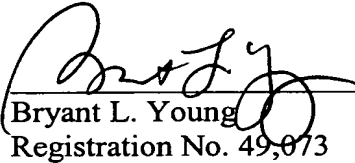
Applicants request that the provisional obviousness-type double patenting rejection of claims 1-4 over claims 1-13 of Montgomery et al. (US 2003/0198605), be held in abeyance until patentable subject matter is indicated.

Applicants submit that the application is now in condition for allowance. Early notification of such allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

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